EDWARD J. MARKEY
7TH DISTRICT, MASSACHUSETTS
www.house.gov/markey

ENERGY AND COMMERCE COMMITTEE
RANKING MEMBER
SUBCOMMITTEE ON
TELECOMMUNICATIONS AND
THE INTERNET
RESOURCES COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515–2107

2108 RAYBURN BUILDING
WASHINGTON, DC 20515–2107
(202) 225–2836

DISTRICT OFFICES:
5 HIGH STREET, SUITE 101
MEDFORD, MA 02155
(781) 396–2900

188 CONCORD STREET, SUITE 102
FRAMINGHAM, MA 01702
(508) 875–2900

January 23, 2002

The Honorable Spencer Abraham
Secretary
Department of Energy
1000 Independence Avenue S.W.
Washington, D.C. 20585

Dear Mr. Secretary:

I am writing to express my concerns about the adequacy of security of nuclear weapons materials at DOE facilities, particularly in light of the events of September 11. Security at these facilities has long been reported to be lax, and I am concerned that a successful terrorist attack could lead to the theft of nuclear weapons-grade materials, the rapid construction and detonation of a radiological dispersion device or "dirty bomb," or the rapid construction and detonation of an improvised nuclear device, or "homemade nuclear bomb" which could kill numerous people and devastate the nearby communities.

In October, 1997 I sent a letter to then-DOE Secretary Federico Pena regarding security and safeguards at various DOE facilities that detailed the risk of terrorist attacks and lax security at many DOE facilities, including Rocky Flats near Denver Colorado, Los Alamos National Laboratory, Lawrence Livermore National Laboratory and the Y-12 site at Oak Ridge National Laboratory in Tennessee. My letter cited reports of improper storage of nuclear weapons materials in broken vaults, the possibility that terrorists who gained access to nuclear weapons materials could quickly construct a dirty bomb or crude nuclear bomb that could achieve criticality and produce nuclear yield, reports that anti-government militia groups attempted to recruit members from within the Rocky Flats security guard force, and that DOE reports on Safeguards and Security repeatedly downplayed and ignored security risks. In his April 21, 1998 response to my letter, then-DOE Secretary Pena stated that "maintaining adequate safeguards over nuclear material is a serious and important responsibility that must receive attention at the highest levels of the Department."

Unfortunately, it seems as though little has been done to remedy the security problems identified in my 1997 letter. On June 15, 1999, the President's Foreign Intelligence Advisory Board (PFIAB) issued a report entitled Science at its Best, Security at its Worst: A Report on Security Problems at the U.S. Department of Energy which concluded that security at DOE was "responsible for the worst security record on secrecy that the members of this panel have ever encountered," that the "Department has devoted far too little time, attention, and resources to the prosaic but grave

responsibilities of security and counterintelligence in managing its weapons and other national security programs," and that DOE had essentially ignored 25 years worth of reports recommending improvements in security.

DOE seems to have ignored the 1999 PFIAB report as well. A September 2001 report entitled U.S. Nuclear Weapons Complex: Security at Risk by the Project on Government Oversight (POGO) described its eight-month investigation that used unclassified documents and credible whistleblower sources to establish that nuclear weapons material at DOE sites remains vulnerable to theft or onsite construction and detonation of dirty bombs or homemade nuclear weapons. In particular, the POGO report described repeated failures by DOE contractor security personnel to protect DOE facilities from attack by mock "terrorists" who were testing security, repeated failures by DOE and its contractors to address and correct identified security problems, and weak and ineffective oversight of security by DOE headquarters personnel. I have reviewed the POGO report, find its conclusions alarming, and have based many of my questions below on documentation contained within the report.

As you know, ten DOE sites, some of which are located near urban areas such as Denver Colorado and the Bay Area of California, reportedly contain enough weapons-grade plutonium (reportedly about 10 kg of metallic plutonium) and highly enriched uranium (reportedly about 50 kg of metallic uranium) to build a crude nuclear bomb (i.e. a bomb that did not require the use of sophisticated technologies such as neutron reflectors). In addition, the DOE Transportation Security Division regularly transports nuclear weapons materials on public highways from site to site within the DOE complex.

While protecting these facilities from theft of nuclear material is an important objective, I am concerned that a group of suicidal terrorists might not bother to attempt to steal nuclear weapons materials from these sites; instead, they might attempt to gain access to the nuclear materials located within them by killing the security guard forces, and, once inside the facility, proceed to construct and detonate dirty bombs or homemade nuclear bombs. Recent press reports have detailed both Al Qaeda members' attempts to obtain nuclear materials as well as their desire to attack U.S. nuclear facilities.

A radiological dispersion device or "dirty bomb" could be created by surrounding nuclear weapons material with conventional explosives and then detonating the conventional explosives, or by detonating a large truck bomb adjacent to a facility used to store nuclear material. The amount of damage done would depend on the amount of radioactive materials (and how small the particles of those materials were ground) as well as on the amount of conventional explosives used to detonate the device. Such a device could be constructed quickly once terrorists gained access to the nuclear materials, and could result in deaths, cancer and widespread contamination of the surrounding community.

Even more alarming is the possibility that terrorists could rapidly construct and detonate an improvised nuclear device[1], or "homemade nuclear bomb," which could achieve criticality and release nuclear yield. Criticality occurs when the minimum amount of fissile nuclear material necessary to cause a chain reaction is brought together, either deliberately or accidentally. The first-ever fatal criticality accident took place at Los Alamos National Laboratory during the Second World War, when a Manhattan Project scientist accidentally dropped a metal block near a plutonium sphere and caused a chain reaction to begin, which delivered a fatal dose of radiation before he was able to move the metal block. A recent example of a criticality accident took place in 1999 in Tokaimura, Japan, and delivered fatal doses of radiation to two people and high doses of radiation to others before the chain reaction, which was caused by having too much highly-enriched uranium in a tank, was halted.

If, instead of trying to stop a chain reaction, a group of suicidal terrorists tried to start one by rapidly propelling two masses of weapons-grade plutonium or uranium towards one another to create a critical mass (conventional explosives or propellants can be used to propel the masses towards one another), I have been informed that the result could be equivalent to that of a detonation of a nuclear weapon.

In light of the potentially devastating consequences of a successful terrorist attack on a DOE nuclear facility, and in light of recent evidence that Al Qaeda members are seeking to commit acts of terrorism involving nuclear materials, I ask for your prompt attention to the following questions, which relate to:

- The ability of the storage vaults for nuclear weapons materials to withstand the impact of large commercial aircraft or truck bombs.

- Reports that force-on-force exercises at DOE facilities designed to test the adequacy of security have resulted in the mock "terrorists" successfully penetrating the facility and gaining access to sensitive nuclear materials more than 50% of the time.

- Whether the Design Basis Threat for DOE facilities, which defines the threat level against which the facilities must be protected, is realistic in light of the events of September 11 and information regarding Al Qaeda's desire to acquire nuclear materials or attack U.S. nuclear facilities.

While I understand that full and complete responses to many of these questions may involve classified or non-public information, I request that unclassified response be prepared, with any classified information transmitted in a separate document.

---

[1] According to Department of Defense documentation, an improvised nuclear device is defined as "a device incorporating radioactive materials designed to result in the dispersal of radioactive material or in the formation of a nuclear-yield reaction. Such devices may be fabricated in a completely improvised manner or may be an improvised modification to a U.S. or foreign nuclear weapon."

Questions Related to DOE's Response to the Events of September 11

1) Hundreds of tons of weapons-grade plutonium and highly enriched uranium are stored at ten major DOE facilities. I am concerned about the consequences of the impact of a large commercial aircraft (or the detonation of a large truck bomb) at the sites. After all, the Nuclear Regulatory Commission has stated that even the extremely-hardened nuclear reactor containment structures were not designed to withstand an attack such as the ones that occurred on September 11.

   a) How many storage vaults or vault-type rooms are used in the DOE complex to store special nuclear material?

   b) Please describe the structures (thickness and type of walls and roofs, type of material, etc.) that the special nuclear material is stored in. Is it true that some special nuclear material is stored in vault-type rooms made of drywall?

   c) Have assessments related to the ability of these structures to withstand i) aircraft impact and ii) large truck bombs (up to 18-wheelers) been performed and documented, and if so, what were the results? If not, why not?

   d) Have assessments related to the worst-case consequences of an aircraft impact or detonation of a large truck bomb been performed for each of these storage facilities? If so, what were the results (numbers of deaths, geographic area contaminated, etc.)? If not, why not?

2) Please describe the steps taken by DOE to increase security at DOE facilities following the events of September 11. How much additional funding has been requested in order to carry out these additional steps? If no additional funds have been requested, then how will you be able to carry out the necessary increases in security?

3) Have any of the security measures taken following September 11 been discontinued or relaxed? If so, which ones, and why, given the continued reports of unspecified but credible threats to U.S. interests, and public statements by Al Qaeda (and other terrorist group) members about how attractive a terrorist target a U.S. nuclear facility is?

4) Have any force-on-force exercises been conducted at any DOE facilities by the Independent Oversight Office of DOE or DOE Field/Program Offices since security was heightened after September 11? If so, what were the results? Did any of these exercises exceed the DOE Design Basis Threat? If no exercises were conducted, how do you know that the additional measures taken actually provide a higher level of security?

5) A recent news report stated that a DOE program that trains foreign nationals to, among other things, identify holes in modern security systems trained students from

Yemen, the Philippines, Kenya and other countries. These students reportedly enrolled in classes at Kirtland Air Force Base in New Mexico and "interfaced" with security teams at Sandia National Laboratories. The reported purpose of the course was to teach the students how to protect a facility and determine its vulnerabilities. I am concerned that if this report is true, that the existence of this program could have the unintended consequence of teaching future terrorists how to penetrate U.S. security systems.

a) Please fully describe the nature and purpose of this program. Are these individuals being trained in the use of the ASSESS program, which is used to determine risk and vulnerabilities at a nuclear site? What access are foreign nationals participating in this program given to databases containing information related to the effectiveness of security components, such as alarms, barriers, vendors of these systems, etc.?

b) Prior to September 11, please describe the measures taken to ensure that the students were not members of foreign or domestic groups that seek to do harm to the U.S. Did they undergo security background checks? If not, why not?

c) It is my understanding that DOE classifies countries as being sensitive or non-sensitive. Please explain how citizens of each country classification would be examined prior to being allowed to enroll in this program. What was Afghanistan's classification prior to September 11? Has it changed since then, and if so, when? Please provide a list of all countries DOE considers to be sensitive.

d) Have any of these classes been run after September 11? If so, did those participants undergo security background checks to ensure that they were not members of domestic or foreign groups that seek to do harm to the U.S.?

e) The press report indicates that a number of Yemeni students who completed the course subsequently disappeared. Is this true? If so, what has been done to locate them?

f) Do you intend to continue this course? If so, why, given the potential threat it could pose to national security?

g) Before September 11, did you consider this program to be sensitive or non-sensitive? What about after September 11?

h) A registration form for a similar (or possibly the identical) course offered by CH2M Hill, also at Sandia National Laboratories (see http://www.ch2m.com/flash/Services/competencies/PhysicalSecurity/SecurityTraining/assets/registration_form.pdf) does not even ask for information such as country of citizenship, immigration status or social security number. How can

you be sure that members of Al Qaeda have not and are not currently enrolled in these courses?

6) The1998 letter sent to me by then-DOE Secretary Pena stated that "the FBI does not routinely search names of all DOE employees and provide information to DOE concerning those employees." Was this policy still in effect on September 11? What about after September 11? Don't you think that it would be a good idea to ensure that none of the U.S. or foreign nationals currently working at DOE facilities belong to domestic or foreign groups that seek to harm the U.S.? If not, why not?

7) Has Rocky Flats processed any nuclear materials on the main floor since September 11? If so, do you believe this was in accordance with the heightened security measures in effect?

8) What is DOE's definition of "adequate" security? Is it an absolute measure based on the outcome of force-on-force exercises and vulnerability analyses, or a relative measure based on how much a particular facility has improved its security?

9) A December 15, 2001 press release from the Nuclear Control Institute states that the Defense Nuclear Facilities Safety Board (DNSFB), an independent board charged with overseeing safety at DOE facilities, was instructed by DOE not to release any documents in response to public inquiries. While I agree that all Federal agencies should be careful not to release any national security information, it is vital that the activities of the government should remain as open and transparent as possible to the public.

   a) Is it true that DOE has instructed DNFSB not to release any documents to the public, even if they don't contain any classified material, and if so, why?

   b) When does DOE intend to resume its release of all appropriate documentation to the public?

Questions on Force-on-Force Exercises at DOE Facilities

In order to determine whether DOE contractor security forces can adequately protect the facilities, DOE reportedly selectively uses Army Special Forces and Navy Seal units to test security through the use of force-on-force exercises. Even though the DOE contractor security force knows both the test date and the test design in advance, and even though the tests may not assume a level of terrorist threat that is realistic given the events of September 11, DOE contractor security forces reportedly still fail these exercises more than 50% of the time. There have also been reports of cheating by DOE protective forces and falsification of inspection results by DOE officials.

1) Are military teams used for all DOE force-on-force exercises? If not, when are military teams used and why?

Force-on-Force Exercises at Los Alamos National Laboratory (LANL)

1) During a 1997 force-on-force exercise at Technical Area 18 at LANL, the mock "terrorists" were able to steal enough weapons-grade uranium for numerous nuclear weapons, and carried the material away with the use of a Home Depot garden cart. The DOE security personnel reportedly later argued that the use of a garden cart was "unfair."

   a) Do you agree that it was "unfair" to use the garden cart to remove materials? Don't you think terrorists undertaking a real attack on the facility would have been prepared to transport the materials using similar means?

   b) Could this weapons-grade uranium have been used as a "home-made" nuclear bomb (i.e. improvised nuclear device) with nuclear yield either onsite or offsite? How long would it have taken to construct and detonate such a device?

   c) What would the consequences have been to the Los Alamos area if this material had been dispersed using conventional explosives, i.e. a dirty bomb?

2) In October, 2000, once again during a force-on-force drill at Technical Area 18 at LANL, the mock "terrorists" were successful in penetrating the facility security during a force-on-force exercise and were able to gain control of sensitive nuclear materials which, if detonated, could have endangered significant parts of New Mexico and Colorado. Apparently, according to a December 20, 2000 memo from DOE Special Assistant Peter Stockton to then-DOE Secretary Bill Richardson, officials at LANL claimed that it was unfair that the mock "terrorists" used a commercially available gaseous irritant to help disorient the security forces and gain access to the nuclear materials.

   a) Do you agree that it is unfair to use gaseous irritants to ensure that the security guard forces are equipped to defend against such an attack? If so, why, given the ease with which such materials are obtained?

   b) How many other DOE force-on-force exercises have had the mock "terrorists" use chemical agents? What were the results of each such exercise?

   c) How will you ensure that security forces at DOE facilities are prepared to withstand attacks using gaseous irritants in the future?

This force-on-force exercise resulted in the mock "terrorists" gaining access to the facility as well as to nuclear materials located within the facility. There have been reports of Al Qaeda's attempts to make nuclear weapons, which include improvised nuclear devices, or "homemade nuclear bombs," in which rough fission weapons are hastily assembled and detonated to produce nuclear yield, and radiological dispersion devices, or "dirty bombs," in which conventional explosives are used to detonate and disperse radioactive material throughout a large area.

d) Do you agree that had the mock attack that took place at LANL in October 2000 been a real attack, either one of these devices could have been hastily constructed and detonated? If not, why not, given that it is clear from the events of September 11 and the discovery of terrorist training manuals in Al Qaeda safe-houses that terrorists undertaking these attacks might well possess the knowledge necessary to construct such weapons?

e) I understand that this exercise was terminated at the point that the mock "terrorists" gained access to the target. However, they were then followed into the facility by two "dead" protective force members. With over 50% of the protective forces reportedly "dead" at that point, several experts have advised us that had this been a real attack, the guard force could not possibly have retaken the facility prior to suicidal terrorists assembling and detonating a home-made nuclear bomb (improvised nuclear device) or a dirty bomb (radiological dispersion device). Do you have any confidence that guard forces that had suffered such extraordinary losses could have been reconstituted and have taken successful offensive actions to kill the terrorists or remove them from the facility? If so, please fully explain in detail.

f) My understanding is that DOE requires all protective forces to have "recapture" capabilities to address the very situation described above. How many recapture performance tests or force-on-force exercises have been conducted in the past 12 months? What were the results of each such test or exercise?

g) In the event that a terrorist attack took place at a DOE facility and resulted in the terrorists gaining access to the facility, what would DOE security forces be required to do? Would they be expected to reenter the facility and attempt to re-take it, even if the security forces had already suffered significant losses of personnel? How long would this be expected to take? If not, what other resources could be utilized to respond to the security breach?

h) What steps has LANL taken to ensure that the necessary upgrades to security were made in order to address the security vulnerabilities identified in the October, 2000 exercise? If no steps have been taken, why not?

i) How many vaults or vault-type rooms are used to store special nuclear material at TA-18?

j) Are these vaults ever kept open during the day? If so, could a mock "terrorist" who had gained access to the facility lock themselves inside it while they assembled and detonated their dirty bomb or homemade nuclear bomb?

k) Have mock "terrorists" ever locked themselves inside a vault during a force-on-force exercise? If so, what were the circumstances, and what has been done to ensure that this would not be possible in the future? Has every DOE facility been

tested to ensure that this cannot occur? Are the guard forces given the equipment they would need to re-open the vault doors quickly?

l) How many electronic lock combinations are required to open a vault used to store nuclear materials? Would any one individual employed at a DOE facility have access to all the necessary combinations for a particular vault?

m) Have additional force-on-force exercises taken place at this facility since October 2000 to ensure that security is in fact improved? If so, what were the results? If not, why not?

The December 20, 2000 memo from DOE Special Assistant Peter Stockton to then-DOE Secretary Bill Richardson indicated that in April 2000, a decision was made to relocate the facility and materials so as to increase security while reducing costs. An Environmental Impact Statement (EIS) was to have been completed by December 15, 2000 and a final decision to be made by January 15, 2001.

n) When was the EIS completed? What did it say?

o) Has a final decision been made on relocating this facility? If so, what was it? If not, why not, and when will the final decision be made?

3) A May 30, 2000 DOE Inspector General (IG) report found numerous problems in the oversight of security at Los Alamos National Laboratory (LANL).

a) The IG report concluded that the Albuquerque Operations Office of DOE changed LANL's security ratings for 1998 and 1999 "without providing a documented rationale for the changes." Albuquerque DOE management concurred with this conclusion. Please identify the personnel who changed the security ratings. Do you believe it was appropriate for them to take this action, since there was apparently no documented rationale for the change? What performance evaluations or performance ratings did the personnel who changed the security ratings receive for their work during this period? What have you done DOE-wide to ensure that the 2000 and 2001 security ratings were made appropriately?

b) The DOE IG report concluded that the Albuquerque Operations Office of DOE "did not fully address concerns about a compromise of force-on-force exercise during the 1998 Albuquerque Security Survey at LANL." Albuquerque DOE management concurred with this conclusion. What have you done to ensure that these concerns have been satisfactorily resolved? What have you done DOE-wide to ensure that in the future, such concerns are addressed immediately after they occur?

c) The DOE IG report concluded that documentation related to the 1997 and 1998 Security Surveys were destroyed (counter to DOE policy). Albuquerque DOE

management concurred with this conclusion. Why were these documents destroyed? If this destruction of documentation was improper and contrary to DOE policies and procedures, were any of the individuals who directed or carried out the destruction of the documents disciplined? If not, why not? What performance ratings or performance evaluations did such individuals receive for their work during this period? Were any of these individuals the same individuals who changed the 1998 and 1999 security ratings? If so, have you determined whether the individuals destroyed the documents in order to cover up the fact that they had improperly altered the security ratings? What have you done to ensure that in the future, all DOE security personnel are aware of and comply with DOE policy on preserving documentation?

d) The DOE IG report concluded that about 30% of LANL Security Operations Division personnel reported that they felt pressured to alter their security self-assessments grades. According to the report, "several of these individuals said LANL management appeared to be more concerned about making LANL and the Security Operations Division "look good" than reporting the actual security condition at LANL." Albuquerque DOE management concurred with this conclusion. What have you done to identify the individuals responsible for applying this pressure and take appropriate disciplinary action against them? What performance evaluations or performance ratings did such individuals receive for their work during this period? What have you done to ensure that DOE security personnel are free to do their job without inappropriate pressure in the future? If no steps have been taken, why not?

e) The Albuquerque DOE management stated that they would take corrective action in response to the problems identified in the DOE IG report. What corrective action has been taken? Have they implemented all the specific recommendations made in the DOE IG report? If not, why not? What have you done to ensure that the actions taken solve the problems that were identified?

f) The DOE IG report recommended that the DOE review security operations at other DOE facilities. Has this happened? If so, please provide a copy of the review. If not, why not?

g) The DOE IG report concluded that if the 1998 grades had not been changed, LANL security would have been rated "unsatisfactory" overall. Please indicate the total performance award fee given to the University of California for management and operation of LANL in 1998, as well as the maximum amount that could have been deducted from this fee had the security ratings not been improperly changed.

h) Were these security deficiencies entered into the Safeguards and Security Information Management System as required? If not, why not? Were corrective action plans developed within 30 days as required? If not, why not?

4) Please fully describe the process by which Albuquerque Operations Office conducted its 2001 security survey.

   a) Who was appointed the survey team leader?

   b) Please provide copies of the Inspection Plan for LANL for 2000 and 2001. In the event that these plans are different from one another, please describe the reason for each change from the 2000 plan.

   c) How long did the plan take to complete? How long did it take to complete in each of the past 5 years?

   d) Please provide copies of the inspectors' findings for the 2001 survey.

   e) What ratings did LANL receive on the 2001 survey? For each area of security inspected, please list the rating as well as the findings that led the inspector to grant the rating.

5) My understanding is that the public road that runs right next to both TA-18 and TA-55, where all of the special nuclear material is stored at Los Alamos, was closed after the events of September 11, but that it has since reopened.

   a) Why was it reopened?

   b) Did DOE security officials agree with the decision to reopen it?

   c) How will these areas at Los Alamos be protected from large truck bombs?

   d) What is the distance between the vehicle barriers and each vault containing special nuclear material?

Force-on-Force Exercises at Rocky Flats, near Denver Colorado

1) In a force-on-force exercise at Rocky Flats, mock "terrorists" were able to sneak into Rocky Flats by making a hole in a chain link fence. They were able to steal enough plutonium to make several nuclear weapons and were only detected when they were exiting the facility.

   a) If the mock "terrorists" had not chosen to leave the facility, and were suicidal, which we now know is a strong possibility for a real terrorist group, couldn't they have constructed and then detonated an improvised nuclear device (i.e. a homemade nuclear bomb) or a radiological dispersion device (i.e. a dirty bomb) from within the facility? If not, why not?

   b) What steps have security personnel at Rocky Flats taken to improve perimeter security to ensure that intruders would be detected prior to gaining entry into the

facility since this event took place? Are there additional guards or electronic systems monitoring the fence to ensure that intruders would not be able to gain access to the facility? If no steps have been taken, why not?

c) It is my understanding that it would only take as little as 1 minute for intruders to reach the vault where the special nuclear material is kept after they are first detected inside the outer fence of the facility. Is this true? If not, how long would it take?

d) Have additional force-on-force exercises been conducted to ensure that the security upgrades are sufficient? If so, what were the results? If not, why not?

2) A March 28, 2000 memo from Richard Levernier, DOE Program Manager of Assessment and Integration to James L. Ford, Acting Director of Field Operations Division, stated that there had been "an alarming trend concerning the inappropriate use of deadly force" during force-on-force exercises at Rocky Flats. Apparently, according to documentation of these exercises, "the response of the protective force, when their orders to halt were disregarded, was to fire indiscriminately into the crowd of evacuees." The same document went on to state that "it is difficult to justify the wholesale killing of the building evacuees, when none among them – even the adversaries – had yet exhibited any behavior which offered a clear risk to either special nuclear material (SNM) or the life of any protective force member." This problem had reportedly been identified in several force-on-force exercises at Rocky Flats from 1998-2000.

a) What steps were taken by Rocky Flats to ensure that this problem was corrected?

b) Have additional force-on-force exercises been conducted to ensure that whatever measures taken by Rocky Flats to correct the problem actually did so? If so, what were the results? If not, how do you know that the steps taken are adequate?

c) The memo stated that force-on-force exercises are judged to be a success even if there is inappropriate use of deadly force that results in fatalities of innocent people. Is this true?

d) Don't you think there should be some penalty, such as a grade of "fail," for inappropriate use of deadly force during force-on-force exercises? If not, why not, since according to the memo, typical law enforcement training exercises consider inappropriate use of deadly force during training exercises to be a failure?

e) Has inappropriate use of deadly force been observed at other DOE sites during force-on-force exercises, and if so, where and under what circumstances? Is

there a specific requirement to report cases where the guard force "kills" anyone other than the mock "terrorists"?

3) A trip report for Rocky Flats March 21-26, 2000 and contained in Appendix C of the Project on Government Oversight report detailed a visit to Rocky Flats to observe force-on-force exercises and conduct additional security reviews.

   a) According to the trip report, DOE headquarters security personnel were initially denied access to the site, and were either denied information or were provided with it too late to be able to verify the results of the security exercises. Don't you agree that as a matter of policy, DOE personnel should have immediate access to the site as well as the materials necessary to make informed judgements about the adequacy of security? If so, what have you done to ensure that DOE contractors are aware of and comply with this policy? If not, why not?

   b) The trip report indicated that the visitors observed a truck entering a Protected Area of Rocky Flats without being searched. Is it DOE security policy to search all vehicles entering its facilities, especially Protected Areas, in light of the possibility that the detonation of a truck bomb close to radioactive material could disperse it over a large area, leading to widespread contamination and risk to public health and safety? If so, what have you done to ensure that this is now being done at Rocky Flats and other DOE facilities?

   c) The trip report also indicated that the Rocky Flats security personnel were not only told that explosives would be used in the force-on-force exercises, but were also told specific information about the size, shape and characteristics of the explosives. Do you believe that such an exercise provides useful, worst-case scenario information on the adequacy of the security forces, since real terrorists would certainly not provide such specific information in advance? If so, why? If not, what are you doing to ensure that security forces are not provided with too much advance information in the future?

   d) The trip report also indicated that the "weapons" used to simulate gunfire were not working, that radio communications during the exercise were unreliable and intermittent, that the adversaries were not permitted to travel off roadways (a rule which no real terrorist would feel constrained to follow), that target buildings and the order of attacks were known to the security forces, and that the number of adversaries in the exercise was not representative of a "worst-case" scenario. Don't you think that these factors resulted in an exercise that did not even approach an approximation of a realistic threat? What are you doing to ensure that DOE headquarters security personnel are better able to participate in the planning and oversight of these exercises to ensure that they provide a more realistic assessment of security capabilities?

4) August 2001 court testimony given by former DOE Special Assistant Peter Stockton in Civil Action No, 97-WM-2191 indicates that plutonium at Rocky Flats was kept

outside the vault (intended to ensure its security) in a high-risk situation eight hours a day, five days a week. Apparently, a security incident took place during this time when an employee walked out of a key security door, setting off an alarm, but the employee was not immediately located by the protective force. In theory, the employee could have stolen plutonium from the facility.

a) How long did it take DOE or DOE contractor security personnel to identify this employee?

b) The security investigation that revealed this problem took place in July 1999. When did Rocky Flats take steps to ensure that the plutonium was secured, and what steps were taken?

c) What has DOE done to ensure that the steps are effective and still in place? Have subsequent force-on-force exercises tested this particular vulnerability? If so, what was the result, and if not, why not?

d) Is there enough plutonium in this particular vault to construct an improvised nuclear device (i.e. homemade nuclear bomb) that would result in a detonation of nuclear yield?

Force-on-Force Exercises for the DOE Transportation Security Division (TSD)

1) The TSD transports nuclear weapons and weapons-grade material from site to site within the DOE complex. According to a December 12, 1998 memo from Richard Levernier, DOE Program Manager of Assessment and Integration to Edward McCallum, then-DOE Director of the Office of Safeguards and Security, the TSD failed six out of seven force-on-force simulations in December 1998.

a) What corrective measures have been taken to ensure that security associated with the transportation of weapons-grade material was improved?

b) Have additional force-on-force exercises been conducted on the TSD to ensure that the corrective security measures are effective? If so, when, and what were the results? If not, why not, and how do you know that shipments of these materials are safe from attack?

c) Do you agree that in the event of a real (and successful, as 6 out of 7 of these mock attacks were) attack on a shipment of weapons-grade materials, a suicidal and knowledgeable group of terrorists could quickly assemble and detonate an improvised nuclear device (i.e. a homemade nuclear bomb) or a radiological dispersion device (i.e. a dirty bomb)? If not, why not?

d) Are shipments of nuclear weapons and weapons-grade materials expected to be secure against armor piercing incendiary rounds? If not, why not, since a June 1999 General Accounting Office report entitled "Weaponry: Availability of Military

.50 Caliber Ammunition" concluded that more than 100,000 rounds of Pentagon-surplus armor-piercing incendiary rounds have been sold on the civilian market?

e) Are shipments of high-level nuclear waste undertaken with the same levels of security as shipments of nuclear weapons or weapons-grade materials? If not, why not, since these materials are highly radioactive and could also be used to construct and detonate radiological dispersion devices? Please also fully describe all differences in the security measures taken for these different types of shipments.

f) Have force-on-force exercises been conducted on shipments of high level nuclear waste? If so, what were the results? If not, why not, since these materials are highly radioactive and could also be used to construct and detonate radiological dispersion devices?

2) An April 19, 1999 memo from Richard Levernier, DOE Program Manager of Assessment and Integration to Edward McCallum, then-DOE Director of the Office of Safeguards and Security, stated that although TSD had received copies of several security reports designed to improve security of nuclear weapons materials shipments, that TSD had yet to provide comments as requested (comments had been requested from TSD on 2 of the reports more than 2 months earlier). A later August 1999 briefing for General Habiger, then DOE's "security czar," indicated that TSD did not propose any compensatory measures in response to the failed exercises, and that TSD wanted to defer all outstanding security issues until 2000. The briefing also recommended that TSD not be given a grade of "satisfactory" or "green" in the 1999 report on DOE Security to the President until it took compensatory security measures.

a) When did TSD finally respond with its comments on the security reports? Why did it take so long, given the importance of ensuring the security of nuclear weapons and weapons-grade material? Please identify the individual(s) responsible for providing comments on these reports. What performance ratings or performance evaluations did such individual(s) receive for work performed during this period?

b) When were compensatory security measures taken by TSD in response to the December 1998 force-on-force simulations that resulted in 6 out of 7 failures? Why did it take so long, given the importance of ensuring the security of nuclear weapons and weapons-grade material? If no such measures have been taken, why not, especially in light of the events of September 11?

c) Please provide a copy of the 1999 DOE Report to the President on Safeguards and Security. What grade did TSD get? If a grade of "satisfactory" or "green" was given, was that because TSD took the required compensatory steps to address flaws in security? If not, then how was such a grade justified?

d) Please provide a copy of the 2000 DOE Report to the President on Safeguards and Security. What grade did TSD get? If a grade of "satisfactory" or "green" was given, was that because TSD took the required compensatory steps to address flaws in security? If not, then how was such a grade justified?

e) In general, do you believe that weaknesses in security should be addressed and corrected immediately upon their discovery? If not, why not? Do you believe that it is acceptable to defer their correction for an extended period of time after their discovery? If so, why, especially in light of the events of September 11?

3) In early 1999, a special force-on-force test on the TSD was run at Fort Hood for high-level DOE HQ personnel. The TSD forces were successful in repelling an attack from the U.S. Army Special Forces mock "terrorists." However, one of the Special Forces members reportedly discovered that the TSD forces had acquired a paper copy of the mock "terrorists'" plan for the exercise, and had used it to cheat.

   a) Please provide copies of all reports, email and correspondence concerning this incident.

   b) What actions have you taken to identify and discipline whoever was responsible for deciding to cheat on the exercise? If no actions have been taken, why not?

   c) Has this exercise been repeated? If not, why not, and how can we be assured that any shipments of nuclear weapons or weapons-grade material is safe?

4) A September 2000 report by the DOE Inspector General made numerous recommendations related to improving security at TSD. Have each of these recommendations been recorded in the Safeguards and Security Information Management System? If not, why not? Have each of the recommendations been implemented? If not, why not?

5) How many shipments of special nuclear material have been made since January 1999?

Questions on the Design Basis Threat (DBT) for DOE Facilities

The DBT is the set of regulations, developed in consultation with intelligence agencies, that describe the threat against which DOE facilities need to be protected. The unclassified version of the December 1998 DOE DBT states that "DOE interests shall be protected against activities which include unauthorized access; theft, diversion or loss of control of nuclear weapons; weapons components, special nuclear material, associated technologies and hardware and critical technologies; sabotage; espionage; loss or theft of classified matter or Government property; and other acts which may cause unacceptable adverse impacts on national security, the health and safety of employees, the public or the environment." Each DOE site is required to develop an

annual Site Safeguards and Security Plan (SSSP) which describes how it would protect against the DBT. The SSSP is developed by the DOE contractors who run the site and must then be analyzed and approved by DOE.

1) Will the DBT for DOE facilities be changed, in light of the events of September 11? If not, why not? If so, when will the changes be completed?

2) If the DBT will be changed, when will the DOE sites be required to submit their new SSSPs for analysis and approval? How long will it take before the new security plans are approved and implemented?

3) Will force-on-force exercises be conducted at each facility to test the adequacy of the new SSSPs? When will they be completed?

4) The unclassified version of the December 1998 DBT defines terrorists as a "small group (including an insider)."

   a) Since, following the events of September 11, we now know that terrorists might choose to attack a facility in multiple coordinated groups of many individuals, will the DBT be revised to include a larger group, and/or several groups of simultaneous attackers? If not, why not, since the nature of the September 11 attack indicates that such a scenario is a realistic threat?

   b) Will the new DBT test security against an active insider or insiders (i.e., an individual who actively assists the attackers by providing access to facilities during the attack, or information on how to operate equipment during the attack), as opposed to a passive insider (i.e., an individual who provides information to the attackers in advance)? If not, why not?

5) The unclassified version of the December 1998 DBT states that the terrorists could be expected to "possess a wide range of military equipment, weapons and ordinances." However, an August 30, 1999 memo from Barbara R. Stone of DOE's Office of Safeguards and Security Evaluations to General Eugene Habiger, then Director of DOE's Office of Security and Emergency Operations, states that the "capabilities of available adversary weapons are not being accurately represented." For each of the following, please indicate whether the weapon was part of the DBT prior to September 11, whether it will be made part of the DBT after September 11, and if not, why not.
   a) Knowledge and non-nuclear technology necessary to rapidly assemble and detonate an onsite improvised nuclear device capable of achieving nuclear yield
   b) Knowledge and non-nuclear technology necessary to rapidly assemble and detonate an onsite radiological dispersion device
   c) Automatic weapons
   d) Grenades
   e) Irritant gases and tactical smoke
   f) Communications disruption devices

g) Anti-personnel and anti-vehicle explosive devices
h) Shoulder-fired surface-to-surface rockets and/or mortars

6) The unclassified version of the December 1998 DBT states that the terrorists could be expected to use "man-portable, mailed and vehicle transported explosives" in attacks on DOE facilities. Would this include truck bombs the size of a large truck? If not, why not, since past terrorist attacks on U.S. targets have utilized such explosive quantities and delivery vehicles?

7) The unclassified version of the December 1998 DBT does not mention the use of chemical or biological agents as part of the attack on DOE facilities, even though 1995 and 1996 Presidential Decision Directives do require that sensitive government facilities be able to withstand such attacks. When did DOE begin to comply with these directives, and assuming that whatever changes have been made took place later than 1998, why did it take so long? Will the DBT be changed to include them? If not, why not?

8) Have force-on-force exercises been conducted at all sensitive DOE facilities to ensure that they are capable of repelling attacks using chemical and biological weapons? If not, why not, and how do you know that DOE facilities are in compliance with the 1995 and 1996 Presidential Decision Directives?

9) What will the new post-9/11 Design Basis Threat require in terms of increased numbers of guard forces at each DOE site that contains special nuclear material? What about purchasing new guard force weapons systems?

10) How will DOE ensure that the size of the guard force, weapons systems used by the guard force, and tactics used by the guard force are adequate to deny attackers access to the DOE facilities?

Question on Critical Systems Flaws in DOE Safeguards and Security

1) An August 30, 1999 memo from Barbara R. Stone of DOE's Office of Safeguards and Security Evaluations to General Eugene Habiger, then Director of DOE's Office of Security and Emergency Operations lists numerous critical systems flaws in DOE safeguards and security. For each of the following failure identified in the memo, please describe whether the problems were entered into the Safeguards and Security Information Management System, whether the required corrective action plans were prepared within 30 days, and what steps have been taken to resolve the problems:
   a) The failure to properly characterize DOE facility security features (such as doors, barriers, alarm systems, etc.) within the ASSESS database;
   b) The failure to update DOE facility security features within the ASSESS database features (such as doors, barriers, alarm systems, etc.) when these features are upgraded;

c) The failure to utilize the ASSESS database calculations of the likely types of insider threats;
d) The failure to correct errors in the combat simulation model used to model tactical engagements at DOE facilities;
e) The failure to include a full range of possible adversary weapons in either the combat simulation model or the actual force-on-force exercises conducted at DOE facilities;
f) The failure to adequately model tactics likely to be used by the mock "terrorists"; and
g) The failure to properly account for the element of surprise likely to be associated with a real terrorist attack in the combat simulation models in order to determine ways (i.e. new training, tactics, or weapons for the guard force) in which to compensate for it.

Question on an Improperly Installed Vehicle Barrier at Pantex Plant in Texas

1) It is my understanding that in 1999, it was discovered that the vehicle barrier on the main road leading to the main storage area at the Pantex Plant in Texas was installed backwards. Instead of providing a barrier to an incoming vehicle, it was acting as a ramp. This area had been inspected multiple times in the years preceding the discovery, but none of the inspectors ever noticed the improper installation.

   a) On what date was the improper installation identified, and on what date was it fixed?

   b) What actions have you taken to ensure that there are no similarly mis-installed barriers at other facilities? Have you ever found mis-installed barriers at other facilities? If so, please list each case, as well as when the problem was first identified, and when the problem was corrected.

   c) What have you done to ensure that future inspection teams have the training to identify such problems and that immediate action is taken to correct them?

   d) Please describe the mandatory training and qualification prerequisites for inspectors of these barriers.

Questions on DOE Retaliation Against Whistleblowers

1) On June 17, 1999, then-DOE Secretary Bill Richardson sent a memo to all DOE and contractor employees that stated that "management must also create and foster a work environment that allows free and open expression of security concerns, where workers fear no reprisals or retaliation." Moreover, a 1992 amendment to 42 USC Sec. 5851 added DOE contractors to the list of employers which are legally prohibited from retaliating against whistleblowers.

a) How many formal or informal complaints of reprisals or retaliation have been made by DOE or DOE contractor/sub-contractor employees who expressed security concerns since the memo was written?

b) For each of these cases, please describe the circumstances, and how the complaints were resolved.

2) Recently, the President and Vice President of the Security Police Officers Association (SPOA) at Lawrence Livermore National Laboratory (LLNL), Charles Quiñones and Mathew Zipoli, were fired for allegedly leading a "sick-out" by the guards – a charge denied by the officers. For two years before that, the officers raised serious concerns about health, safety and security at LLNL, and recently the two filed a whistleblower lawsuit against the lab alleging retaliation.

a) The two officers raised many concerns about the emergency response plans for handling of radioactive materials, including providing the appropriate training, equipment, and protective clothing for LLNL security forces officers. Have these concerns been addressed, and if so, how? If not, why not?

b) On October 6, 2001, the DOE Office of Inspector General (DOE IG) issued a report on LLNL security that reportedly confirms many of the security deficiencies first identified by the two LLNL whistleblowers, but thus far has reportedly refused to release it. Please provide me with an unclassified version of this report.

c) Please describe the security measures taken in response to the October 6, 2001 DOE IG Report. Were all the recommendations made by the IG adopted, and if not, why not?

Questions on Resources Allocated to and Organization of DOE Safeguards and Security

1) June 8, 1999 Congressional testimony given by Edward J. McCallum, then-Director of the DOE Office of Safeguards and Security, stated that "since 1992, the number of protective forces at DOE sites nationwide has decreased by almost 40%... while the inventory of nuclear material has increased by more than 30%." Numerous critics of DOE security have observed that the budget for security often competes directly with other mission activities such as nuclear weapons research.

a) For each year since 1992, and for each DOE site, please list the numbers and levels of training (i.e. Special Response Team, etc.) of protective force personnel employed on the site.

b) For each year since 1992, and for each DOE site, please indicate the amount of funds the director of the Office of Safeguards and Security recommended be spent for safeguards and security.

c) For each year since 1992, and for each DOE site, please list the amount of funds actually spent on safeguards and security.

d) In each case where the amount of money recommended by the Office of Safeguards and Security is higher than the amount actually spent on those activities, please indicate why the decision was made not to follow the Office of Safeguards and Security recommendation.

e) Do you believe that DOE Program Offices (such as the Defense Programs Office or the Office of Science) should play any role in developing the budget for safeguards and security activities? If so, why do you think that is appropriate, since personnel in these Offices would naturally prefer to obtain additional funds for their own R&D activities rather than spend it on safeguards and security?

f) My understanding is that Lawrence Livermore National Laboratory (LLNL) disbanded its Special Response Team in the mid-1990s. Why did they do so? Was the Team reconstituted, and if so, when and why? During the period when LLNL had no Special Response Team, what compensatory actions were taken to ensure that these security capabilities were available in the event of an attack? What was the response time of the security forces used during this period?

2) Who within DOE (please provide name and title) has the authority to ensure that DOE Program Offices are implementing departmental security policies and requirements?

Question on Cybersecurity and Hacking at Lawrence Livermore National Laboratory

1) A January 8, 2002 AP story reported on an individual who pled guilty to hacking into Lawrence Livermore National Laboratory's (LLNL's) computer system in 1999, in order to cause damage.

a) The article states that the hacker downloaded administrative and lab budget information. Could he have also downloaded classified information had he chosen to do so? If not, why not?

b) The article states that the hacker installed software on the LLNL network to allow him ongoing access to the system. How many times did he access the system, and over what timeframe?

c) What steps has the lab taken since this incident to upgrade cyber-security? More generally, please describe the measures taken DOE-wide to ensure that this does not happen again.

d) Have there been any instances of successful hacking attempts into DOE or DOE-contractor computer systems since this one occurred? If so, please list each one, along with the date the incident occurred, the damage done, and the steps taken in response to ensure that the computer system attacked and computer systems DOE-wide would be secure from such attacks in the future.

Question on Plutonium Storage at Westinghouse Savannah River Company

1) A Westinghouse Savannah River Company (WSRC) document entitled "Interim Storage of Plutonium in Existing Facilities" (document number WSRC-MS-99-00020) states that the K-Area Material Storage Facility (KAMS) in Aiken, SC, where many tons of plutonium removed from Rocky Flats is likely to be stored temporarily, is a "hardened" structure.

a) What is your definition of a hardened structure? Is the KAMS facility capable of withstanding an accidental or intentional impact by a large commercial airliner or the nearby detonation of a large truck bomb?

b) The document states that "DOE has stipulated that there be no credible release [of plutonium] during storage, since there are no design features in place to mitigate a release of plutonium (i.e. HEPA filters, facility containment boundaries, etc.)" and that the plutonium will likely be kept there for 10 years. Please describe the Hazard Category scale used to assign safety ratings to the KAMS facility, indicating what Hazard Category rating KAMS received, and how this rating accounted for hazards caused by terrorist attacks.

c) Given the fact that Al Qaeda members have stated that they wish to attack U.S. nuclear facilities, do you plan to incorporate design features to mitigate a release of plutonium? If not, why not? What would be the worst-case consequences of a successful terrorist attack on this facility?

d) The document states that "No credible design basis scenarios resulting in the release of plutonium exist." On what basis was the scenario of a successful terrorist attack on this facility deemed to be non-credible? Have force-on-force exercises been conducted at the facility against an increased threat that reflects the events of September 11? If so, what were the results? If not, why not, and how could WSRC have concluded that there was no credible design basis scenario resulting in a release of plutonium?

e) A November 21, 2001 letter from the Defense Nuclear Safety Review Board (DNFSB) to you referred to a September 19, 2001 DOE decision that "possible extended storage (up to 50 years) of plutonium at Savannah River Site would not lead to any safety issues as long as the material was packaged to meet DOE-STD-3013." Has the packaging of the material been tested to ensure that no credible releases of plutonium will occur if the material remains there for up to

50 years? If so, what were the results? If not, how did you conclude that it would be safe?

f) The November 21, 2001 DNFSB letter states that the "KAMS facility, which will be relied upon for such storage at Savannah River Site, is an aged facility and was never intended to provide more than interim storage. Maintaining KAMS for prolonged use beyond its design life could prove to be impractical." Given the current and anticipated problems in implementing the plutonium disposition program both in the U.S. and Russia, plutonium storage may be needed for a period of time considerably longer than 10 years. If longer-term storage is anticipated, please describe the process to certify that KAMS will be secure for long-term storage of up to 50 years. Will DOE also consider removal of the plutonium to a more secure, dedicated storage facility, and if so, where will it be located?

2) Has DOE conducted a site-wide evaluation to determine the most secure facilities where pit and non-pit plutonium should be stored for the long-term? Please describe the process by which DOE has chosen the KAMS facility for non-pit plutonium and how other new or existing facilities, including the Device Assembly Facility at the Nevada Test Site and the Kirtland Underground Munitions Storage Complex in New Mexico, were evaluated for this important mission for both pit and non-pit materials. Also, please describe where plutonium pits will be stored at SRS as part of the plutonium disposition program and what type of security will be applied to that facility.

Thank you very much for your attention to this important matter. I request that a response to this inquiry be provided within 30 working days, or no later than March 8, 2002. Should you have any questions or concerns, please have your staff contact Dr. Michal Freedhoff or Mr. Jeff Duncan of my staff at 202-225-2836.

Sincerely,

Ed Markey

Edward J. Markey
Member of Congress